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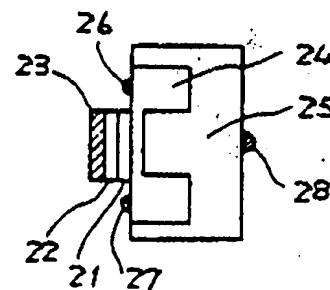
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TITLE : ION SELECTIVE FIELD EFFECT
TRANSISTOR



ABSTRACT : PURPOSE: To generate the local concn. of an electric field and to improve the sensitivity of an ion selective field effect transistor by forming a porous insulating layer on a gate oxide film or gate nitride film.

CONSTITUTION: The electric field on an insulator and semiconductor surface is ununiformized and apparently the flat band potential of the semiconductor changes to improve the pH sensitivity thereof when the local concentration of the electric field arises from the ununiform electric field on the gate surface. The ununiform electric field is, therefore, generated by providing a porous insulating film 23 on the silicon oxide film 21 and the silicon nitride film 22. Thus the sensor sensitivity is improved by generating a ununiform electric field on the gate surface in the above-mentioned manner.

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